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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,751	02/11/2004	Rodney E. Hooker	CNTR.2082	3613

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EXAMINER

COLEMAN, ERIC

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/776,751	Applicant(s) HOOKER ET AL.	
	Examiner Eric Coleman	Art Unit 2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-48 is/are allowed.
- 6) ☒ Claim(s) 49-52 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 52 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 52 is directed to a computer data signal embodied in a transmission medium. A signal is not within any of the statutory classes of invention namely, machine manufacture, composition of matter, or process. Also a signal and the program the signal comprises is not tangible so as executable and therefore claim 52 is directed to non-statutory subject matter.

Allowable Subject Matter

3. The following is a statement of reasons for the indication of allowable subject matter: Independent claims 1,35,41, contain the limitation of a first or central dispatcher (or dispatcher coupled to the execution units) and dispatcher within the execution unit. The prior art comprises dispatching instructions to execution units for execution and when data needed to execute an instruction is not available forwarding the instruction with an indication that the data is not available. However the combination of claim 1, of the first dispatch logic configured to request from a cache data specified by the load instruction to receive from the cache an indication the data is not presently available and to provide the load instruction and a tag identifying the unavailable data to one of the execution unit and dispatch logic in each execution unit configured to monitor a bus coupling the cache and execution units to detect a valid match of the tag... to obtain the

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data from the cache was not found in the prior art. Also the variation to this combination of features in claims 35, and 41 was not found in the prior art.

4. Claims 1-48 are allowed.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 49-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Ray (patent No. 6,035,394).

7. Ray taught the invention as claimed including a data processing ("DP") system comprising: decoding a first instruction (e.g., see col. 9, lines 1-64 and col. 5, lines 16-36)), the first instruction specifying an operands specified by a memory address(e.g., see col. 6, lines 15-47); providing the first instruction to a first execution unit (load/store unit) without the operand in response to the memory address missing in the cache memory(e.g., see col. 12, lines 3-35) and indicating to the first execution unit that the operand is invalid, obtaining by the first execution unit (e.g., see co.. 13, lines 38-col. 14, line 2), the operand from the cache memory subsequent to the providing the first instruction; executing by the first execution unit the instruction in response to the obtaining; decoding a second instruction after the decoding the first instruction; and providing the second to a second execution unit prior to the obtaining the operand from the cache memory (e.g. see col. 14, line 2-col. 15, line 42 and col. 5, lines 16-36).

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8. As per claim 50, Ray taught providing the instruction to the execution unit along with the operand if the memory address hits in the cache memory and indicating to the execution unit that the operand is valid (e.g., see col. 15 lines 9-42).

9. As per claim 51, Ray taught providing uniquely identifying the missing operand substantially concurrently with the providing the first instruction to the first execution to the first instruction to the first execution unit without the operand; and detecting by the execution unit, a match of the tag with a tag transmitted by the cache memory along with the operand, wherein the obtaining by the first execution unit the operand from the cache memory is performed in response to the detecting (e.g., see col. 14, line 32-col. 15, line 42).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Caffo (patent No. 5,737,636) disclosed a system for detecting bypass errors in a load/store unit (e.g., see abstract).

Akkary (patent No. 5,671,444) disclosed a system for caching in non-blocking manner using a plurality of fill buffers (e.g. see abstract).

Kroesche (patent No. 6,968,444) disclosed a microprocessor employing a fixed position dispatch unit (e.g., see abstract).

Miyaoku (patent No. 5,828,860) disclosed a DP system with cache memory and storage unit for storing data between main storage and cache (e.g., see abstract).

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Webb (patent No. 6,374,444) disclosed a system for processing load instructions in the presence of RAM array and data bus conflicts (e.g., see abstract).


Young (patent No. 5,717,896) disclosed a system for performing pipeline store instructions (e.g., see abstract).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Coleman whose telephone number is (571) 272-4163. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EC


ERIC COLEMAN
PRIMARY EXAMINER